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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/522,554	03/10/2000	Francis M. Rossi	16650016US01	5524

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EXAMINER

CEPERLEY, MARY

ART UNIT	PAPER NUMBER
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1641

DATE MAILED: 05/22/2002

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/522,554

Applicant(s)

ROSSI, FRANCIS M.

Examiner

Mary (Molly) E. Ceperley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

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1) The information disclosure statement filed March 12, 2002 fails to comply with 37 CFR 1.97(d) because it lacks a statement as specified in 37 CFR 1.97(c) (1) or the fee set forth in 37 CFR 1.17(p). It has been placed in the application file, but the information referred to therein has not been considered.

2) The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3) Although specific claims are cited in the rejections below, these rejections are also applicable to all other claims in which the noted problems/language occur.

4) Claims 13-20 are rejected under 35 USC 112, first and second paragraphs, as not corresponding with the enabling written description of the invention as it is set forth in the specification and as being indefinite for the following reasons.

a) Claim 13 is indefinite in failing to define the spatial arrangement of the required components of the "device". There is no indication of where the "porous matrix", "electrode cells" and the "affinity anchor molecules" are positioned relative to each other and there is also no requirement that these components be attached to each other in any way. The term "a moiety that binds to" does not require that the moiety be actually **bound to** "a specific or complementary affinity anchor molecule". The enabling written description of the invention as provided in the specification requires a specific orientation of the required components relative to each other.

b) In claim 13, it is unclear what is meant by the term "a **specific or complementary** affinity anchor molecule".

c) In claim 13, it is unclear how "**each** molecule of interest" can have "**a** binding entity" which constitutes "**combinations**" of "oligonucleotides", "peptides" and "antibodies". Further, there

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appears to be no support in the specification for "combinations" of these moieties nor for "mixed oligopeptides" of claim 17?

d) In claim 17, it is unclear what is meant by the term "electrochemically synthesizing" and there appears to be no support in the specification for a "synthesis" (i.e. a making) of "affinity anchor molecules" at specific locations (specification, page 4, line 30).

e) The specification is internally inconsistent with regard to the description of the function of the "porous membrane". Page 6, lines 11-15 specify that the "affinity anchors" are immobilized onto a "porous membrane" while page 6, lines 33-34 specifies that the "porous membrane" "allows molecules to flow freely between a bulk solvent and an electrode". These descriptions are further inconsistent with claim 17 wherein the "a plurality of different affinity anchor molecules" are located "**within** a porous **matrix**". It is also unclear what is meant by the term "matrix".

f) In claim 17, it is unclear what is meant by the term "known locations".

g) Claim 17 does not correspond with the specification which is directed to an array of **electrodes**. There is no requirement in claim 17 that any such **electrode** array be present.

h) In claim 17, there is no antecedent basis in step ^(c) ~~g~~ for the term "the complementary moiety of the molecule of interest".

5) Claims 13-20 are rejected under 35 USC 102/103(a) as being anticipated or obvious over each of Montgomery, Ackley et al, Heller et al, Ribí et al, or Hafeman et al, all of record, for the reasons stated in paragraph 8. of the last Office action.

Applicant's arguments filed March 12, 2002 have been fully considered but they are not persuasive. Applicant admits that the references "each describe an electrode array". However, applicant argues that the references do not show the claimed "self-assembly" of molecules by binding "molecules of interest" to "affinity anchor molecules". This argument is inconsistent with the actual descriptions of the references. For example, although applicant argues that Montgomery only provides the initial "array of affinity anchor molecules" and does not further "self-assemble a plurality of molecules of interest"

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(Remarks, page 4, last paragraph), Montgomery at col. 5, lines 30-56 describes the formation of oligomers by a process which binds one oligomer to another. This is all that is required by the "binding" language of instant claim 17. Similarly, Ribí et al describe an electrode array in which the attached specific binding pair member is further bound to its complementary binding pair member through a biotin-avidin linkage as in Example 1 of the instant specification. See Ribí et al, col. 3, lines 18-31; col. 6, lines 23-29; col. 7, lines 37-53. Thus, the references do, in fact, describe electrode arrays in which "affinity anchor molecules" are bound to "molecules of interest".

6) Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


7) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary E. (Molly) Ceperley whose telephone number is (703) 308-4239. The examiner can normally be reached from 8 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le, can be reached at (703) 305-3399. The fax phone number for responses to be filed BEFORE final rejection is (703) 872-9306. The fax phone number for responses to be filed AFTER final rejection is (703) 872-9307.

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Questions which are NOT RELATED TO THE EXAMINATION ON THE MERITS, should be directed to **TC 1600 CUSTOMER SERVICE** at **(703) 308-0198**. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

May 21, 2002


Mary E. (Molly) Ceperley
Primary Examiner
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